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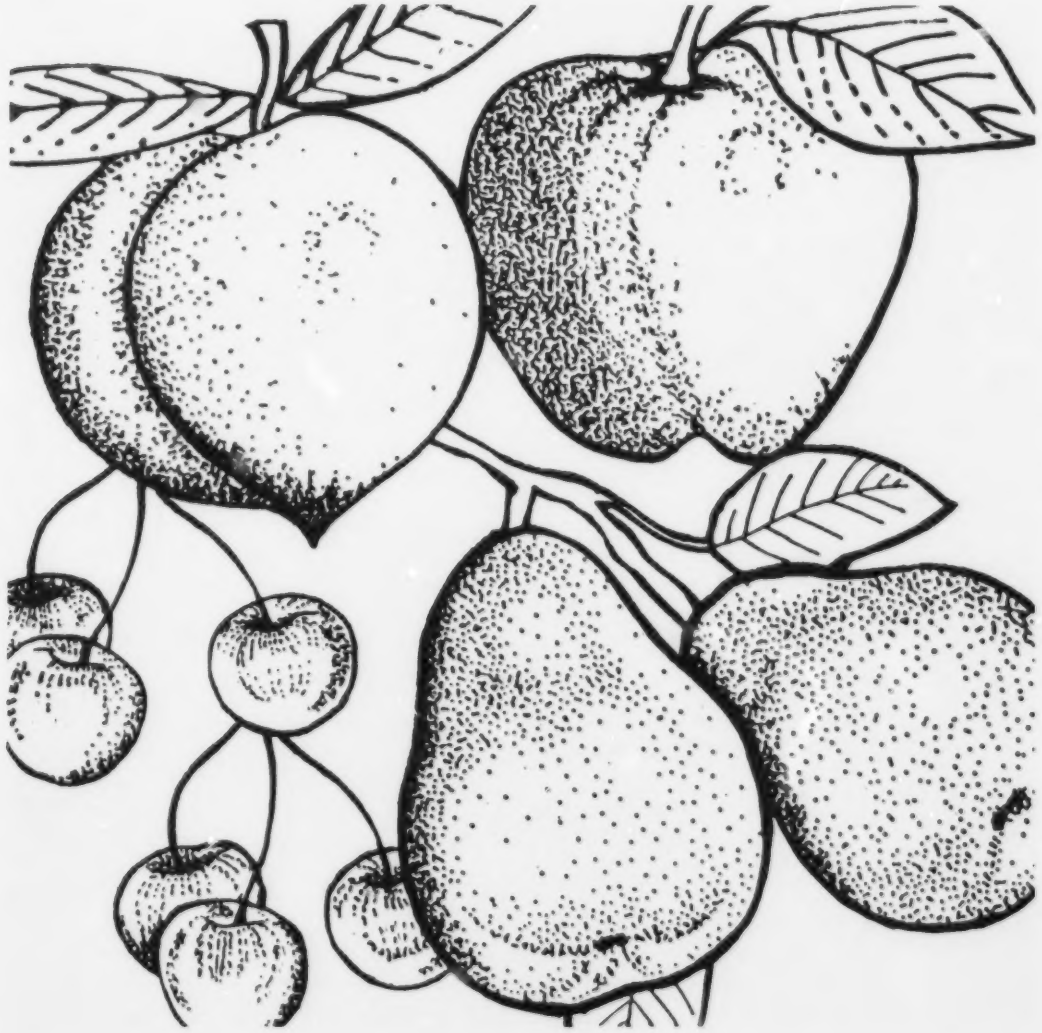

POLICY ANALYSIS BRANCH

ONTARIO MINISTRY OF AGRICULTURE AND FOOD
LEGISLATIVE BUILDINGS, TORONTO, ONTARIO M7A 2B2

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ECONOMICS INFORMATION

REPORT NO. 92-03

FRUIT CROPS

ESTIMATED PRODUCTION COSTS

ONTARIO, 1991

by

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Legislative Buildings, Queen's Park
Toronto, Ontario,
M7A 2B2

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INTRODUCTION

Since 1948, the Policy Analysis Branch has carried out comprehensive studies of major field and horticultural crops grown in Ontario. These studies were designed to determine costs and returns of various farm enterprises, as well as the physical amounts of production inputs required.

Traditionally, data was collected by means of farmer interviews. Published reports of these studies in the form of county, regional and provincial averages found a wide distribution among extension and research personnel, educational institutions, farm organizations, lending institutions and policy makers. Cooperating farmers received reports showing their individual information in comparison with group averages.

With this extensive background in the development of cost studies, the Policy Analysis Branch now use micro-computers in the preparation of cost data. Computer simulation now replaces the time consuming process of data collection, tabulation and analysis.

With this new approach, special attention is paid to the physical quantities and prices of inputs for each crop studied. The technology used in the production of various crops is carefully examined so that the computer models will accurately reflect the appropriate production technology for each commodity.

Information on inputs is obtained from a number of sources, including:

1. previous studies done by this Branch;
2. surveys of the farm supply trade;
3. technical input/output coefficients; and
4. the consensus of producers, researchers, extension and agribusiness personnel.

A wide variation in cost structures exist in any agricultural enterprise. The budgets presented in this study do not reflect the variation that would be found between farms. The budgets are representative of costs likely to be found within the industry and are intended to be used as a guideline of possible costs. The costs represented are not necessarily averages as not enough information is available on the actual cost structures that various farms operate under. Individuals with information about their own costs are able to make adjustments using the published budgets as a starting point.

THE DEVELOPMENT OF THE BUDGETING PROGRAM

A large number of computer programs that generate budgets and crop production cost estimates are now in existence. These computer programs vary in their degree of sophistication and in the amount of detail prepared. A large number of estimates covering a wide range of conditions can be generated quickly and efficiently. The effect of varying levels of technology, management practices and price levels can also be analyzed.

The 1991 cost of production estimates shown in this report are generated by a program originally written in Mississippi, adapted by the University of Minnesota, and modified by the Policy Analysis Branch to accommodate Ontario agricultural conditions.

Users of the budgets should be aware that a new method of calculation was used in 1991 and as a result direct comparisons to prior years may be difficult.

METHODS AND PROCEDURES

The information used in the preparation of each production cost estimate was prepared through the use of recent Policy Analysis Branch studies, plus consultation with producers, extension, research and agribusiness personnel.

For each crop cost estimate in this report, the data was organized into variable and measurable fixed costs and totalled to arrive at the cost of production on a per acre basis. Variable costs are those which vary directly with the production of each crop grown. They include seed, plants, hired labour, fertilizer, herbicides, insecticides, fungicides, other materials, machinery operating costs, marketing charges and interest on operating capital. Fixed cost inputs are interest and depreciation on machinery, and other overhead cost items. Some fixed costs vary considerably or are difficult to measure thus the user should be fully aware that there may be other costs to consider. Owner labour, land charges and returns to management are discussed below.

LABOUR HOURS AND COSTS

Labour hours required for each crop were based on previous studies, as well as discussions with those familiar with the production of each crop.

The budget generator separates labour into two categories. First, any labour utilized for operating farm machinery is classified as machine operator labour. These labour hours are valued at $8.25 per hour and include benefits such as worker compensation, unemployment and health insurance and Canada Pension Plan. Secondly, labour utilized for any task other than machinery operation is classified as hired labour and is valued at $7.25 per hour including benefits.

The labour hours of the farm owner are included in the total labour hours recorded for each crop. However, since owner's contribution to the total hours of labour per acre will vary substantially between farm enterprises, a random estimate of the owner's share of total labour hours is not given.

A management allowance is not included as a cost. In previous cost of production publications a management allowance was calculated as 5% of gross income. Profits will vary substantially between crops and farm enterprises. The return to management is realized in the profit received when producing any crop and a user may allocate a management fee if it is appropriate to his/her situation.

LAND CHARGES

Determining the annual cost for land use is a controversial part of any study on production costs. Land prices and rental rates vary considerably between crops, regions and individuals. For this reason space is provided for the user to insert land rental cost in the variable costs section or land ownership cost in the fixed cost section.

MATERIALS

The amount of each material input was based on commonly used practices. Input prices are based on averages charged by the trade in the area where the particular crop is grown. For most crops, the quantities of seed, plants, fertilizer nutrients and other inputs are given on a per acre basis. Because of the multitude of products available, pesticides are grouped as herbicides, insecticides, fungicides, nematicides, etcetera. The cost and quantity of non-returnable containers is reported where applicable.

TRACTORS, MACHINES AND TRUCKS

Machinery complements used in the various crop production cost estimates were assumed to be five years old. Tractor and machine costs included depreciation, interest on investment, repairs and fuel. If machines were used for other farming operations, costs were adjusted based on the proportion of use on the study crop. The declining balance method of depreciation was used, based on estimates of useful life, annual use and salvage value.

Interest on machinery investment was calculated on the assumption that the equity portion was 70 percent and the debt portion was 30 percent of the total depreciated value. For this report, interest on equity was calculated at 4.75 percent, which was the average interest rate paid by chartered banks on savings accounts. The interest on the debt portion was based on the average prime rate of 10.0 percent, plus one for a total of 11.0 percent. Insurance and storage costs for machinery are included in other overhead.

Fuel costs were based on the size of each tractor, truck or self-propelled machine used in the production operation. The following farmgate fuel prices were used: gasoline - 37 cents/litre; diesel - 33 cents/litre. Fuel costs are net of all 1991 Provincial and Federal rebates.

CUSTOM FARMWORK SERVICES

There are crops produced in Ontario where it is an accepted practice to use custom farmwork services to perform certain operations. Usually, these services are employed when the farmer needs specialized machines, such as harvesters, sprayers, fertilizer applicators and trucks. Custom costs were itemized on a per acre basis, and obtained from discussions with growers and those providing the service.

INTEREST ON OPERATING CAPITAL

Interest on operating capital required to finance each crop was calculated from the time an expenditure was made until the time income was generated from sales. Operating capital includes the cost of materials, fuel, repairs, hired labour, and other cash items. In this study, the interest rate applied to operating capital was the average estimated prime rate for 1991 of 10.0 percent plus 1 percent for a rate of 11.0 percent.

OTHER OVERHEAD

This allowance covers such items as the study crop's share of utilities, equipment storage and insurance, accounting and administration costs, use of the farm automobile, and general farm maintenance.

OTHER COST CONSIDERATIONS

Depending on the crop studied, there are certain additional costs such as crop insurance, marketing board fees, grading charges and selling commissions. Costs for these were obtained from the respective Marketing Boards, and Crop Insurance Commission.

Allowances were made for the use of picking baskets, storage bins, and other pieces of reusable equipment required in the production of certain crops. The cost was based on previous Policy Analysis Branch studies.

YIELDS AND RETURNS

For each study crop presented in this report, a footnote to the table defines how the average prices were calculated. For many crops the yield will vary considerably within the Province.

In this report, per acre costs are given under both an average and attainable yield scenario. Attainable yields were obtained for each crop through consultation with producers, extension and agribusiness personnel.

GROSS MARGIN ANALYSIS

Gross margin is the amount above the variable costs that a crop contributes to the operator for his management, the investment in machinery and land, and to other overhead costs. A different expected yield and/or price could considerably change the gross margin calculated. A land rental fee is not included in the variable costs and thus the gross margin recorded is the margin before any land charges are deducted.

YOUR INPUT

The accuracy and representativeness of the cost of production budgets can only be kept up-to-date through continuous contact with individuals involved in production, marketing, processing or research for each crop. If you have any questions or can contribute to any of the budgets in this report please feel free to call the author at (416) 562-4141.

TABLES

Table 1.–Apples on Standard Trees: Estimated Cost of Production, Ontario, 1991

	Your Farm	Cost per acre Yield 400 bu	Yield 700 bu
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 92.5 hrs/152.5 hrs	_____	671	1,106
Machine operator, 29.9 hrs/35.2 hrs	_____	246	290
Fertilizer:			
Ammonium nitrate, 45 kg	_____	12	12
Muriate of potash, 90 kg	_____	19	19
Insecticides	_____	146	146
Fungicides	_____	131	131
Herbicides	_____	13	13
Bee rental	_____	20	20
Mouse bait, 1.8 kg	_____	4	4
Tractor and machine costs:			
Repairs and maintenance	_____	56	65
Fuel	_____	51	60
O.A.M.C. fees	_____	39	39
Bin rental	_____	160	280
Custom bin hauling	_____	160	280
Interest on operating capital	_____	61	74
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**1,789**	**2,539**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	69	80
Interest on investment	_____	46	53
Other overhead	_____	75	75
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**190**	**208**
GROSS MARGIN ANALYSIS			
Gross Income ($5.39 per bushel)[a]	_____	2,156	3,773
Total Variable Costs	_____	1,789	2,539
Gross Margin (no land costs reflected)	_____	367	1,234

[a] The 1991 price is an average of the previous three years for Ontario-grown apples.

Table 2.–Apples on Standard Trees: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning	16.8	130.60	7.33	12.81	150.74
Brush removal	2.0	16.34	6.58	6.32	29.24
Fertilizing (2x)	1.3	10.89	5.01	5.24	21.14
Mowing (4x)	2.6	21.78	21.46	17.60	60.84
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (12x)	5.2	43.12	30.63	38.51	112.26
Summer management	4.0	29.00	--	--	29.00
Apply mouse bait	0.5	3.62	--	--	3.62
HARVEST					
LOWER YIELD (400 bu/ac)					
Picking	80.0	580.00	--	--	580.00
Bin handling & supervision	9.2	76.23	32.94	31.05	140.22
HIGHER YIELD (700 bu/ac)					
Picking	140.0	1,015.00	--	--	1,015.00
Bin handling & supervision	14.5	119.79	51.72	48.82	220.33

[a] Fixed costs include depreciation and interest on investment.

Table 3.–Apples on Size-Controlling Trees: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 500 bu	Yield 700 bu
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 122.5 hrs/155.5 hrs	_____	888	1,127
Machine operator, 23.9 hrs/27.9 hrs	_____	197	230
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	126	126
Fungicides	_____	114	114
Herbicides	_____	13	13
Bee rental	_____	20	20
Mouse bait, 2.25 kg	_____	5	5
Replacement trees	_____	15	15
Tractor and machine costs:			
Repairs and maintenance	_____	56	63
Fuel	_____	52	59
O.A.M.C. fees	_____	39	39
Bin rental	_____	200	280
Custom bin hauling	_____	200	280
Interest on operating capital	_____	74	82
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,051**	**2,505**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	66	74
Interest on investment	_____	44	49
Other overhead	_____	75	75
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**185**	**198**
GROSS MARGIN ANALYSIS			
Gross Income ($5.39 per bushel)	_____	2,695	3,773
Total Variable Costs	_____	2,051	2,505
Gross Margin (no land costs reflected)	_____	644	1,268

Table 4.–Apples on Size-Controlling Trees: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Replanting trees	1.3	10.89	4.70	4.44	20.03
Pruning	30.0	217.50	--	--	217.50
Brush removal	2.6	21.78	8.77	8.43	38.98
Fertilizing (2x)	1.3	10.89	5.01	5.24	21.14
Mowing (4x)	2.6	21.78	21.46	17.60	60.84
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (11x)	4.8	39.53	28.08	35.30	102.91
Summer management	10.0	72.50	--	--	72.50
Apply mouse bait	0.5	3.62	--	--	3.62
HARVEST					
LOWER YIELD (500 bu/ac)					
Picking	82.0	594.50	--	--	594.50
Bin handling & supervision	10.6	87.12	37.61	35.50	160.23
HIGHER YIELD (700 bu/ac)					
Picking	115.0	833.75	--	--	833.75
Bin handling & supervision	14.5	119.79	51.72	48.82	220.33

[a] Fixed costs include depreciation and interest on investment

Table 5.–Sour Cherries for Processing, Hand-Harvested: Estimated Cost of Production, Ontario, 1991

	Cost per acre		
	Your Farm	Yield 4 ton	Yield 6 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 219.0 hrs/285.0 hrs	_____	1,588	2,066
Machine operator, 46.6 hrs/51.2 hrs	_____	384	423
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	69	69
Fungicides	_____	136	136
Herbicides	_____	19	19
Other sprays	_____	93	93
Manure, 10 ton	_____	100	100
Cover crop seed	_____	4	4
Tractor and machine costs:			
Repairs and maintenance	_____	126	152
Fuel	_____	76	85
Marketing board fees	_____	78	117
Interest on operating capital	_____	122	143
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,847**	**3,459**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	145	170
Interest on investment	_____	96	113
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**341**	**383**
GROSS MARGIN ANALYSIS			
Gross Income ($1,008.00 per ton)[a]	_____	4,032	6,048
Total Variable Costs	_____	2,847	3,459
Gross Margin (no land costs reflected)	_____	1,185	2,589

[a] The price is the 1991 payment for a quality rating of either 95 or 96 percent.

Table 6.–Sour Cherries for Processing, Hand-Harvested: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning and brush removal	31.7	246.69	17.21	26.64	290.54
Fertilizing	0.7	5.45	2.50	2.61	10.56
Cultivating (6x)	4.0	32.67	22.03	18.59	73.29
Mowing (2x)	1.3	10.89	10.73	8.80	30.42
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (7x)	3.1	25.16	17.87	22.46	65.49
Spreading manure	1.8	14.92	10.08	17.21	42.21
Sow cover crop	0.7	5.45	2.50	2.61	10.56
General maintenance	1.2	9.90	6.09	4.00	19.99
HARVEST					
LOWER YIELD (4 ton/ac)					
Distribute & collect containers	10.6	87.12	37.65	35.49	160.26
Picking	180.0	1,305.00	--	--	1,305.00
Sorting & grading	24.0	174.00	--	--	174.00
Marketing/delivery	6.0	49.50	73.39	99.23	222.12
HIGHER YIELD (6 ton/ac)					
Distribute & collect containers	13.2	108.90	47.06	44.37	200.33
Picking	240.0	1,740.00	--	--	1,740.00
Sorting & grading	30.0	217.50	--	--	217.50
Marketing/delivery	8.0	66.00	97.85	132.31	296.16

[a] Fixed costs include depreciation and interest on investment.

Table 7.–Sour Cherries for Processing, Machine-Harvested: Estimated Cost of Production, Ontario, 1991

	Your Farm	Cost per acre Yield 4 ton	Cost per acre Yield 6 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 15.0 hrs/15.0 hrs	_____	109	109
Machine operator, 30.0 hrs/30.0 hrs	_____	248	248
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	69	69
Fungicides	_____	136	136
Herbicides	_____	19	19
Other sprays	_____	93	93
Manure, 10 ton	_____	100	100
Cover crop seed	_____	4	4
Tractor and machine costs:			
Repairs and maintenance	_____	45	45
Fuel	_____	46	46
Custom harvesting, cooling, delivery	_____	880	1,320
Marketing board fees	_____	78	117
Interest on operating capital	_____	91	108
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**1,970**	**2,466**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	64	64
Interest on investment	_____	42	42
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**206**	**206**
GROSS MARGIN ANALYSIS			
Gross Income ($1,008.00 per ton)[a]	_____	4,032	6,048
Total Variable Costs	_____	1,970	2,466
Gross Margin (no land costs reflected)	_____	2,062	3,582

[a] The price is the 1991 payment for a quality rating of either 95 or 96 percent.

Table 8.–Sour Cherries for Processing, Machine-Harvested: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning and brush removal	31.7	246.69	17.21	26.64	290.54
Fertilizing	0.7	5.45	2.50	2.61	10.56
Cultivating (6x)	4.0	32.67	22.03	18.59	73.29
Mowing (2x)	1.3	10.89	10.73	8.80	30.42
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (7x)	3.1	25.16	17.87	22.46	65.49
Spreading manure	1.8	14.92	10.08	17.21	42.21
Sow cover crop	0.7	5.45	2.50	2.61	10.56
General maintenance	1.2	9.90	6.09	4.00	19.99

[a] Fixed costs include depreciation and interest on investment.

Table 9.–Sweet Cherries for Fresh Market: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 2 ton	Yield 3 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 165.0 hrs/210.0 hrs	_____	1,196	1,522
Machine operator, 39.1 hrs/41.4 hrs	_____	323	342
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	148	148
Fungicides	_____	121	121
Herbicides	_____	19	19
Manure, 10 ton	_____	100	100
Cover crop seed	_____	4	4
Containers	_____	349	523
Tractor and machine costs:			
Repairs and maintenance	_____	97	110
Fuel	_____	62	67
Interest on operating capital	_____	44	49
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,515**	**3,057**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	115	127
Interest on investment	_____	77	85
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**292**	**312**
GROSS MARGIN ANALYSIS			
Gross Income ($18.10 per 3 x 4L Master)[a]	_____	3,801	5,702
Total Variable Costs	_____	2,515	3,057
Gross Margin (no land costs reflected)	_____	1,286	2,645

[a] The 1991 price is an average of the previous three years for sweet cherries sold through the Central Fruit Exchange

Table 10.–Sweet Cherries for Fresh Market: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning and brush removal	31.7	246.69	17.21	26.64	290.54
Fertilizing	0.7	5.45	2.50	2.61	10.56
Cultivating (4x)	2.6	21.78	14.68	12.39	48.85
Mowing (3x)	2.0	16.34	16.09	13.20	45.63
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (8x)	3.5	28.75	20.42	25.67	74.84
Spreading manure	1.8	14.92	10.08	17.21	42.21
Sow cover crop	0.7	5.45	2.50	2.61	10.56
General maintenance	1.2	9.90	6.10	4.00	20.00
HARVEST					
LOWER YIELD (2 ton/ac)					
Distribute & collect containers	5.3	43.56	18.82	17.75	80.13
Picking	100.0	725.00	--	--	725.00
Sorting & grading	50.0	362.50	--	--	362.50
Marketing/delivery	4.0	33.00	48.92	66.16	148.08
HIGHER YIELD (3 ton/ac)					
Distribute & collect containers	6.6	54.45	23.53	22.18	100.16
Picking	130.0	942.50	--	--	942.50
Sorting & grading	65.0	471.25	--	--	471.25
Marketing/delivery	5.0	41.25	61.15	82.70	185.10

[a] Fixed costs include depreciation and interest on investment.

Table 11.–Sweet Cherries for Canning and Freezing Purposes: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 2 Ton	Yield 3 Ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 155.0 hrs/197.0 hrs	_____	1,124	1,428
Machine operator, 39.1 hrs/41.4 hrs	_____	323	342
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	148	148
Fungicides	_____	121	121
Herbicides	_____	19	19
Manure, 10 ton	_____	100	100
Cover crop seed	_____	4	4
Tractor and machine costs:			
Repairs and maintenance	_____	97	110
Fuel	_____	62	67
Marketing board fees	_____	24	36
Interest on operating capital	_____	40	43
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,114**	**2,470**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	115	127
Interest on investment	_____	77	85
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**292**	**312**
GROSS MARGIN ANALYSIS			
Gross Income ($1,362.00 per ton)[a]	_____	2,724	4,086
Total Variable Costs	_____	2,114	2,470
Gross Margin (no land costs reflected)	_____	610	1,616

[a] The price is the 1991 payment for sweet cherries sold through the Ontario Tender Fruit Producers' Marketing Board.

Table 12.--Sweet Cherries for Canning and Freezing Purposes: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning and brush removal	31.7	246.69	17.21	26.64	290.54
Fertilizing	0.7	5.45	2.50	2.61	10.56
Cultivating (4x)	2.6	21.78	14.68	12.39	48.85
Mowing (3x)	2.0	16.34	16.09	13.20	45.63
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (8x)	3.5	28.75	20.42	25.67	74.84
Spreading manure	1.8	14.92	10.08	17.21	42.21
Sow cover crop	0.7	5.45	2.50	2.61	10.56
General maintenance	1.2	9.90	6.10	4.00	20.00
HARVEST					
LOWER YIELD (2 ton/ac)					
Distribute & collect containers	5.3	43.56	18.82	17.75	80.13
Picking	90.0	652.50	--	--	652.50
Sorting & grading	50.0	362.50	--	--	362.50
Marketing/delivery	4.0	33.00	48.92	66.16	148.08
HIGHER YIELD (3 ton/ac)					
Distribute & collect containers	6.6	54.45	23.53	22.18	100.16
Picking	117.0	848.25	--	--	848.25
Sorting & grading	65.0	471.25	--	--	471.25
Marketing/delivery	5.0	41.25	61.15	82.70	185.10

[a] Fixed costs include depreciation and interest on investment.

Table 13.--Sweet Cherries for Maraschino Purposes: Estimated Cost of Production, Ontario, 1991

	Your Farm	Cost per acre Yield 2 Ton	Yield 3 Ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 165.0 hrs/210.0 hrs	_____	1,196	1,522
Machine operator, 39.1 hrs/41.4 hrs	_____	323	342
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Manure, 10 ton	_____	100	100
Insecticides	_____	148	148
Fungicides	_____	121	121
Herbicides	_____	19	19
Cover crop seed	_____	4	4
Tractor and machine costs:			
Repairs and maintenance	_____	97	110
Fuel	_____	62	67
Marketing board fees	_____	24	36
Interest on operating capital	_____	41	44
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,187**	**2,565**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	115	127
Interest on investment	_____	77	85
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**292**	**312**
GROSS MARGIN ANALYSIS			
Gross Income ($762.00 per ton)[a]	_____	1,524	2,286
Total Variable Costs	_____	2,187	2,565
Gross Margin (no land costs reflected)	_____	-663	-279

[a] The price is the 1991 payment for sweet cherries sold through the Ontario Tender Fruit Producers' Marketing Board.

Table 14.–Sweet Cherries for Maraschino Purposes: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning and brush removal	31.7	246.69	17.21	26.64	290.54
Fertilizing	0.7	5.45	2.50	2.61	10.56
Cultivating (4x)	2.6	21.78	14.68	12.39	48.85
Mowing (3x)	2.0	16.34	16.09	13.20	45.63
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (8x)	3.5	28.75	20.42	25.67	74.84
Spreading manure	1.8	14.92	10.08	17.21	42.21
Sow cover crop	0.7	5.45	2.50	2.61	10.56
General maintenance	1.2	9.90	6.10	4.00	20.00
HARVEST					
LOWER YIELD (2 ton/ac)					
Distribute & collect containers	5.3	43.56	18.82	17.75	80.13
Picking	100.0	725.00	--	--	725.00
Sorting & grading	50.0	362.50	--	--	362.50
Marketing/delivery	4.0	33.00	48.92	66.16	148.08
HIGHER YIELD (3 ton/ac)					
Distribute & collect containers	6.6	54.45	23.53	22.18	100.16
Picking	130.0	942.50	--	--	942.50
Sorting & grading	65.0	471.25	--	--	471.25
Marketing/delivery	5.0	41.25	61.15	82.70	185.10

[a] Fixed costs include depreciation and interest on investment.

Table 15.–Concord Grapes for Processing: Estimated Cost of Production, Ontario, 1991

	Cost per acre		
	Your Farm	Yield 3.8 Ton	Yield 5.0 Ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 38.0 hrs/38.0 hrs	_____	276	276
Machine operator, 13.4 hrs/13.4 hrs	_____	111	111
Fertilizer:			
Ammonium nitrate, 45 kg	_____	12	12
Muriate of potash, 135 kg	_____	29	29
Manure, 5 ton	_____	50	50
Insecticides	_____	32	32
Fungicides	_____	60	60
Herbicides	_____	31	31
Cover crop seed	_____	4	4
Tying material	_____	11	11
Trellis maintenance	_____	13	13
Tractor and machine costs:			
Repairs and maintenance	_____	33	33
Fuel	_____	34	34
Custom harvest/delivery	_____	228	300
Marketing board fees	_____	36	48
Interest on operating capital	_____	52	53
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**1,012**	**1,097**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	46	46
Interest on investment	_____	30	30
Other overhead	_____	60	60
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**136**	**136**
GROSS MARGIN ANALYSIS			
Gross Income ($291.00 per ton)[a]	_____	1,106	1,455
Total Variable Costs	_____	1,012	1,097
Gross Margin (no land costs reflected)	_____	94	358

[a] The 1991 price is an average of the previous three years for Concord grapes sold through the Ontario Grape Growers' Marketing Board.

Table 16.--Concord Grapes for Processing: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning	20.0	145.00	--	--	145.00
Brush removal	1.3	10.89	4.38	4.22	19.49
Tying	11.0	79.75	--	--	79.75
Fertilizing	0.7	5.45	2.50	2.61	10.56
Manure spreading	1.8	14.92	10.09	17.19	42.20
Discing (2x)	1.3	10.89	7.34	6.19	24.42
Rotovating	1.3	10.89	7.32	6.14	24.35
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (4x)	1.7	14.37	10.21	12.82	37.40
Sow cover crop	0.7	5.45	2.50	2.61	10.56
Summer pruning & suckering	5.0	36.25	--	--	36.25
Mowing (2x)	1.3	10.89	10.73	8.80	30.42
Ditching & grading	1.3	10.89	4.58	4.05	19.52
Vineyard maintenance	3.3	25.39	4.73	8.34	38.46

[a] Fixed costs include depreciation and interest on investment.

Table 17.–DeChaunac Grapes for Processing: Estimated Cost of Production, Ontario, 1991

	Your Farm	Cost per acre Yield 4.4 Ton	Yield 6.0 Ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 71.0 hrs/71.0 hrs	_____	515	515
Machine operator, 13.9 hrs/13.9 hrs	_____	115	115
Fertilizer:			
Ammonium nitrate, 45 kg	_____	12	12
Muriate of potash, 135 kg	_____	29	29
Manure, 5 ton	_____	50	50
Insecticides	_____	36	36
Fungicides	_____	87	87
Herbicides	_____	31	31
Cover crop seed	_____	4	4
Tying material	_____	12	12
Trellis maintenance	_____	4	4
Tractor and machine costs:			
Repairs and maintenance	_____	34	34
Fuel	_____	35	35
Custom harvest/delivery	_____	264	360
Marketing board fees	_____	48	66
Interest on operating capital	_____	68	70
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**1,344**	**1,460**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	48	48
Interest on investment	_____	31	31
Other overhead	_____	60	60
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**139**	**139**
GROSS MARGIN ANALYSIS			
Gross Income ($312.00 per ton)[a]	_____	1,373	1,872
Total Variable Costs	_____	1,344	1,460
Gross Margin (no land costs reflected)	_____	29	412

[a] The 1991 price is an average of the previous three years for DeChaunac grapes sold through the Ontario Grape Growers' Marketing Board.

Table 18.--DeChaunac Grapes for Processing: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning	24.0	174.00	--	--	174.00
Brush removal	1.3	10.89	4.38	4.22	19.49
Tying	13.0	94.25	--	--	94.25
Fertilizing	0.7	5.45	2.50	2.61	10.56
Manure spreading	1.8	14.92	10.09	17.19	42.20
Discing (2x)	1.3	10.89	7.34	6.19	24.42
Rotovating	1.3	10.89	7.32	6.14	24.35
Thinning	25.0	181.25	--	--	181.25
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (5x)	2.2	17.97	12.78	16.04	46.79
Sow cover crop	0.7	5.45	2.50	2.61	10.56
Summer pruning & suckering	8.0	58.00	--	--	58.00
Mowing (2x)	1.3	10.89	10.73	8.80	30.42
Ditching & grading	1.3	10.89	4.58	4.05	19.52
Vineyard maintenance	2.3	18.14	4.73	8.34	31.21

[a] Fixed costs include depreciation and interest on investment.

Table 19.—J. Riesling Grapes for Processing: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 4.6 Ton	Yield 6.0 Ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 94.0 hrs/94.0 hrs	_____	682	682
Machine operator, 18.5 hrs/18.5 hrs	_____	153	153
Fertilizer:			
Ammonium nitrate, 45 kg	_____	12	12
Muriate of potash, 135 kg	_____	29	29
Manure, 5 ton	_____	50	50
Insecticides	_____	48	48
Fungicides	_____	242	242
Herbicides	_____	31	31
Cover crop seed	_____	4	4
Tying material	_____	17	17
Trellis maintenance	_____	8	8
Tractor and machine costs:			
Repairs and maintenance	_____	43	43
Fuel	_____	45	45
Custom harvest/delivery	_____	276	360
Marketing board fees	_____	51	66
Interest on operating capital	_____	91	93
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**1,782**	**1,883**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	60	60
Interest on investment	_____	40	40
Other overhead	_____	60	60
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**160**	**160**
GROSS MARGIN ANALYSIS			
Gross Income ($658.00 per ton)[a]	_____	3,027	3,948
Total Variable Costs	_____	1,782	1,883
Gross Margin (no land costs reflected)	_____	1,245	2,065

[a] The 1991 price is an average of the previous three years for J. Riesling grapes sold through the Ontario Grape Growers' Marketing Board.

Table 20.—J. Riesling Grapes for Processing: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning	39.0	282.75	--	--	282.75
Brush removal	1.3	10.89	4.38	4.22	19.49
Tying	22.0	159.50	--	--	159.50
Fertilizing (2x)	1.3	10.89	5.01	5.24	21.14
Manure spreading	1.8	14.92	10.09	17.19	42.20
Discing (2x)	1.3	10.89	7.34	6.19	24.42
Rotovating	1.3	10.89	7.32	6.14	24.35
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (8x)	3.5	28.75	20.44	25.65	74.84
Suckering	5.0	36.25	--	--	36.25
Hilling up & down	2.6	21.78	9.18	8.10	39.06
Sow cover crop	0.7	5.45	2.50	2.61	10.56
Summer pruning, tucking & tying	27.0	195.75	--	--	195.75
Mowing (2x)	1.3	10.89	10.73	8.80	30.42
Ditching & grading	1.3	10.89	4.58	4.05	19.52
Vineyard maintenance	2.3	18.14	4.73	8.34	31.21

[a] Fixed costs include depreciation and interest on investment.

Table 21.–Seyval Blanc Grapes for Processing: Estimated Cost of Production, Ontario, 1991

	Cost per acre		
	Your Farm	Yield 5.0 Ton	Yield 7.0 Ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 90.0 hrs/90.0 hrs	_____	652	652
Machine operator, 15.4 hrs/15.4 hrs	_____	127	127
Fertilizer:			
Ammonium nitrate, 45 kg	_____	12	12
Muriate of potash, 135 kg	_____	29	29
Manure, 5 ton	_____	50	50
Insecticides	_____	48	48
Fungicides	_____	176	176
Herbicides	_____	31	31
Cover crop seed	_____	4	4
Tying material	_____	16	16
Trellis maintenance	_____	8	8
Tractor and machine costs:			
Repairs and maintenance	_____	38	38
Fuel	_____	39	39
Custom harvest/delivery	_____	300	420
Marketing board fees	_____	55	77
Interest on operating capital	_____	86	89
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**1,671**	**1,816**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	53	53
Interest on investment	_____	35	35
Other overhead	_____	60	60
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**148**	**148**
GROSS MARGIN ANALYSIS			
Gross Income ($367.00 per ton)[a]	_____	1,835	2,569
Total Variable Costs	_____	1,671	1,816
Gross Margin (no land costs reflected)	_____	164	753

[a] The 1991 price is an average of the previous three years for Seyval Blanc grapes sold through the Ontario Grape Growers' Marketing Board.

Table 22.–Seyval Blanc Grapes for Processing: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning	33.0	239.25	--	--	239.25
Brush removal	1.3	10.89	4.38	4.22	19.49
Tying	18.0	130.50	--	--	130.50
Fertilizing (2x)	1.3	10.89	5.01	5.24	21.14
Manure spreading	1.8	14.92	10.09	17.19	42.20
Discing (2x)	1.3	10.89	7.34	6.19	24.42
Rotovating	1.3	10.89	7.32	6.14	24.35
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (7x)	3.0	25.16	17.89	22.44	65.49
Sow cover crop	0.7	5.45	2.50	2.61	10.56
Mowing (2x)	1.3	10.89	10.73	8.80	30.42
Suckering	6.0	43.50	--	--	43.50
Thinning	32.0	232.00	--	--	232.00
Ditching & grading	1.3	10.89	4.58	4.05	19.52
Vineyard maintenance	2.3	18.14	4.73	8.34	31.21

[a] Fixed costs include depreciation and interest on investment.

Table 23.--Muskmelons for Fresh Market: Estimated Cost of Production, Ontario, 1991

	Cost per acre		
	Your Farm	Yield 400 cartons	Yield 500 cartons
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 69.0 hrs/79.0 hrs	_____	500	573
Machine operator, 31.9 hrs/33.2 hrs	_____	263	274
Fertilizer:			
15-15-15, 275 kg	_____	92	92
10-52-10, 3.6 kg	_____	9	9
Insecticides	_____	15	15
Fungicides	_____	57	57
Herbicides	_____	63	63
Plants, 3,630	_____	363	363
Cover crop seed, 60 kg rye	_____	4	4
Mulch, black plastic	_____	243	243
Beehive rental	_____	20	20
Custom pack & cool	_____	1,400	1,750
Irrigation	_____	240	240
Tractor and machine costs:			
Repairs and maintenance	_____	87	90
Fuel	_____	80	84
Interest on operating capital	_____	70	74
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**3,506**	**3,951**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	97	100
Interest on investment	_____	65	67
Other overhead	_____	60	60
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____		
GROSS MARGIN ANALYSIS			
Gross Income ($9.75 per carton)[a]	_____	3,900	4,875
Total Variable Costs	_____	3,506	3,951
Gross Margin (no land costs reflected)	_____	394	924

[a] The 1991 price is an average of the previous three years for Ontario-grown muskmelons.

Table 24.--Muskmelons for Fresh Market: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Fall discing	0.2	1.20	1.69	1.63	4.52
Sowing cover crop	0.7	5.45	2.50	2.61	10.56
Spring plowing	0.4	3.70	6.59	5.61	15.90
Discing (2x)	0.3	2.40	3.39	3.27	9.05
Packing/rolling	0.7	5.45	3.81	4.12	13.38
Fertilizing	0.1	1.09	1.26	0.93	3.28
Apply black mulch	2.0	16.34	10.94	10.29	37.57
Planting	13.2	108.90	46.42	66.09	221.41
Hand hoeing	3.0	21.75	--	--	21.75
Weed spraying	0.3	2.18	2.05	2.54	6.77
Cultivating (3x)	1.4	11.76	8.41	6.68	26.85
Side-dressing	0.7	5.94	3.27	5.92	15.13
Pesticide spraying (4x)	1.1	8.71	8.23	10.16	27.10
Mowing	0.7	5.45	5.36	4.41	15.22
Mulch removal	8.6	65.28	14.27	10.65	90.20
HARVEST					
LOWER YIELD (400 cartons/ac)					
Picking	60.0	435.00	--	--	435.00
Hauling in	6.6	54.45	35.68	26.61	116.74
Custom pack & cool	--	--	--	--	1,400.00
HIGHER YIELD (500 cartons/ac)					
Picking	70.0	507.50	--	--	507.50
Hauling in	7.9	65.34	42.81	31.94	140.09
Custom pack & cool	--	--	--	--	1,750.00

[a] Fixed costs include depreciation and interest on investment.

Table 25.--Clingstone Peaches for Processing: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 7 ton	Yield 9 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 206.0 hrs/228.0 hrs	_____	1,494	1,653
Machine operator, 54.3 hrs/60.5 hrs	_____	448	499
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	190	190
Fungicides	_____	241	241
Herbicides	_____	19	19
Manure, 5 ton	_____	50	50
Replacement trees, 7	_____	30	30
Cover crop seed	_____	4	4
Tractor and machine costs:			
Repairs and maintenance	_____	130	150
Fuel	_____	94	106
Marketing board fees	_____	98	126
Interest on operating capital	_____	110	114
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,960**	**3,234**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	151	172
Interest on investment	_____	101	115
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**352**	**387**
GROSS MARGIN ANALYSIS			
Gross Income ($466.50 per ton)[a]	_____	3,266	4,198
Total Variable Costs	_____	2,960	3,234
Gross Margin (no land costs reflected)	_____	306	964

[a] The 1991 price is an average of the previous three years for Clingstone peaches sold through the Ontario Tender Fruit Producers' Marketing Board.

Table 26.–Clingstone Peaches for Processing: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Planting replacement trees	1.3	10.89	4.70	4.44	20.03
Pruning & brush removal	53.8	406.18	19.76	27.66	453.60
Cultivation (4x)	2.6	21.78	14.67	12.41	48.86
Spreading manure	1.8	14.92	10.08	17.21	42.21
Fertilizing	0.7	5.45	2.50	2.61	10.56
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (10x)	3.6	35.94	25.53	32.09	93.56
Hand thinning	48.0	348.00	--	--	348.00
Mowing (4x)	2.2	21.78	21.45	17.62	60.85
Sow cover crop	0.7	5.45	2.50	2.61	10.56
General maintenance	3.2	24.40	6.09	4.00	34.49
HARVEST					
LOWER YIELD (7 ton/ac)					
Distribute & collect containers	18.5	152.46	65.82	62.14	280.42
Picking	98.0	710.50	--	--	710.50
Grading	20.0	145.00	--	--	145.00
Marketing/delivery	4.0	33.00	48.92	66.16	148.08
HIGHER YIELD (9 ton/ac)					
Distribute & collect containers	23.8	196.02	84.62	79.89	360.53
Picking	115.0	833.75	--	--	833.75
Grading	25.0	181.25	--	--	181.25
Marketing/delivery	5.0	41.25	61.15	82.70	185.10

[a] Fixed costs include depreciation and interest on investment.

Table 27.–Freestone Peaches for Fresh Market: Estimated Cost of Production, Ontario, 1991

	Cost per acre		
	Your Farm	Yield 7 ton	Yield 9 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 254.0 hrs/288.0 hrs	_____	1,842	2,088
Machine operator, 55.3 hrs/61.5 hrs	_____	456	508
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	190	190
Fungicides	_____	241	241
Herbicides	_____	19	19
Manure, 5 ton	_____	50	50
Replacement trees, 7	_____	30	30
Cover crop seed	_____	4	4
Tractor and machine costs:			
Repairs and maintenance	_____	140	160
Fuel	_____	96	108
Containers	_____	1,261	1,622
Interest on operating capital	_____	124	136
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**4,505**	**5,208**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	161	182
Interest on investment	_____	108	121
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**369**	**403**
GROSS MARGIN ANALYSIS			
Gross Income ($7.80 per 3 x 4 L master)[a]	_____	5,460	7,020
Total Variable Costs	_____	4,505	5,208
Gross Margin (no land costs reflected)	_____	955	1,812

[a] The 1991 price is an average of the previous three years for peaches sold through the Central Fruit Exchange.

Table 28.–Freestone Peaches for Fresh Market: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Planting replacement trees	1.3	10.89	4.70	4.44	20.03
Pruning & brush removal	53.8	406.18	19.76	27.66	453.60
Cultivation (4x)	2.6	21.78	14.67	12.41	48.86
Spreading manure	1.8	14.92	10.08	17.21	42.21
Fertilizing	0.7	5.45	2.50	2.61	10.56
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (10x)	3.6	35.94	25.53	32.09	93.56
Hand thinning	48.0	348.00	--	--	348.00
Mowing (4x)	2.2	21.78	21.45	17.62	60.85
Sow cover crop	0.7	5.45	2.50	2.61	10.56
General maintenance	3.2	24.40	6.09	4.00	34.49
HARVEST					
LOWER YIELD (7 ton/ac)					
Distribute & collect containers	18.5	152.46	65.82	62.14	280.42
Picking	126.0	913.50	--	--	913.50
Grading & packing	40.0	290.00	--	--	290.00
Marketing/delivery	5.0	41.25	61.15	82.70	185.10
HIGHER YIELD (9 ton/ac)					
Distribute & collect containers	23.8	196.02	84.62	79.89	360.53
Picking	150.0	1,087.50	--	--	1,087.50
Grading & packing	50.0	362.50	--	--	362.50
Marketing/delivery	6.0	49.50	73.39	99.23	222.12

[a] Fixed costs include depreciation and interest on investment.

Table 29.--Bartlett Pears for Fresh Market: Estimated Cost of Production, Ontario, 1991

	Cost per acre		
	Your Farm	Yield 4 ton	Yield 6 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 111.0 hrs/134.0 hrs	_____	805	972
Machine operator, 40.9 hrs/47.1 hrs	_____	337	389
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	199	199
Fungicides	_____	21	21
Herbicides	_____	19	19
Manure, 5 ton	_____	50	50
Containers	_____	598	896
Bee rental	_____	20	20
Tractor and machine costs:			
Repairs and maintenance	_____	100	120
Fuel	_____	62	73
Interest on operating capital	_____	104	119
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,367**	**2,930**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	115	136
Interest on investment	_____	77	91
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**292**	**327**
GROSS MARGIN ANALYSIS			
Gross Income ($7.45 per 3 x 4 L master)[a]	_____	2,682	4,023
Total Variable Costs	_____	2,367	2,930
Gross Margin (no land costs reflected)	_____	315	1,093

[a] The 1991 price is an average of the previous three years for Bartlett pears sold through the Central Fruit Exchange.

Table 30.--Bartlett Pears for Fresh Market: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning & brush removal	31.7	246.69	17.21	26.64	290.54
Fertilizing	0.7	5.45	2.50	2.61	10.56
Mowing (4x)	2.6	21.78	21.45	17.62	60.85
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (6x)	2.6	21.56	15.31	19.26	56.13
Manure spreading	1.8	14.92	10.08	17.21	42.21
Thinning	40.0	290.00	--	--	290.00
General maintenance	1.2	9.90	6.09	4.00	19.99
HARVEST					
LOWER YIELD (4 ton/ac)					
Distribute & collect containers	10.6	87.12	37.61	35.50	160.23
Picking	40.0	290.00	--	--	290.00
Grading & packing	16.0	116.00	--	--	116.00
Marketing/delivery	4.0	33.00	48.92	66.16	148.08
HIGHER YIELD (6 ton/ac)					
Distribute & collect containers	15.8	130.68	56.42	53.26	240.36
Picking	55.0	398.75	--	--	398.75
Grading & packing	24.0	174.00	--	--	174.00
Marketing/delivery	5.0	41.25	61.15	82.70	185.10

[a] Fixed costs include depreciation and interest on investment.

Table 31.--Bartlett Pears for Processing: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 4 ton	Yield 6 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 107.0 hrs/128.0 hrs	_____	776	928
Machine operator, 40.9 hrs/47.1 hrs	_____	337	389
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	199	199
Fungicides	_____	21	21
Herbicides	_____	19	19
Manure, 5 ton	_____	50	50
Bee rental	_____	20	20
Marketing board fees	_____	52	78
Tractor and machine costs:			
Repairs and maintenance	_____	100	120
Fuel	_____	62	73
Interest on operating capital	_____	88	94
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**1,776**	**2,043**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	115	136
Interest on investment	_____	77	91
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**292**	**327**
GROSS MARGIN ANALYSIS			
Gross Income ($368.60 per ton)[a]	_____	1,474	2,212
Total Variable Costs	_____	1,776	2,043
Gross Margin (no land costs reflected)	_____	-302	169

[a] The 1991 price is an average of the previous three years based on a weighted average of 90% No. 1 and 10 % No. 2 Bartlett pears.

Table 32.--Bartlett Pears for Processing: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning & brush removal	31.7	246.69	17.21	26.64	290.54
Fertilizing	0.7	5.45	2.50	2.61	10.56
Mowing (4x)	2.6	21.78	21.45	17.62	60.85
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (6x)	2.6	21.56	15.31	19.26	56.13
Manure spreading	1.8	14.92	10.08	17.21	42.21
Thinning	40.0	290.00	--	--	290.00
General maintenance	1.2	9.90	6.09	4.00	19.99
HARVEST					
LOWER YIELD (4 ton/ac)					
Distribute & collect containers	10.6	87.12	37.61	35.50	160.23
Picking	40.0	290.00	--	--	290.00
Sorting & grading	12.0	87.00	--	--	87.00
Marketing/delivery	4.0	33.00	48.92	66.16	148.08
HIGHER YIELD (6 ton/ac)					
Distribute & collect containers	15.8	130.68	56.42	53.26	240.36
Picking	55.0	398.75	--	--	398.75
Sorting & grading	18.0	130.50	--	--	130.50
Marketing/delivery	5.0	41.25	61.15	82.70	185.10

[a] Fixed costs include depreciation and interest on investment.

Table 33.--Bosc Pears for Fresh Markets: Estimated Cost of Production, Ontario, 1991

	Your Farm	Cost per acre Yield 4 ton	Yield 6 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 98.0 hrs/121.0 hrs	_____	710	877
Machine operator, 40.9 hrs/47.1 hrs	_____	337	389
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	199	199
Fungicides	_____	21	21
Herbicides	_____	19	19
Manure, 5 ton	_____	50	50
Containers	_____	598	896
Bee rental	_____	20	20
Tractor and machine costs:			
Repairs and maintenance	_____	100	120
Fuel	_____	62	73
Interest on operating capital	_____	100	115
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,268**	**2,831**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	115	136
Interest on investment	_____	77	91
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**292**	**327**
GROSS MARGIN ANALYSIS			
Gross Income ($8.20 per 3 x 4 L master)[a]	_____	2,952	4,428
Total Variable Costs	_____	2,268	2,831
Gross Margin (no land costs reflected)	_____	684	1,597

[a] The 1991 price is an average of the previous three years for Bosc pears sold through the Central Fruit Exchange.

Table 34.–Bosc Pears for Fresh Market: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning & brush removal	31.7	246.69	17.21	26.64	290.54
Fertilizing	0.7	5.45	2.50	2.61	10.56
Mowing (4x)	2.6	21.78	21.45	17.62	60.85
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (6x)	2.6	21.56	15.31	19.26	56.13
Manure spreading	1.8	14.92	10.08	17.21	42.21
Thinning	27.0	196.00	--	--	196.00
General maintenance	1.2	9.90	6.09	4.00	19.99
HARVEST					
LOWER YIELD (4 ton/ac)					
Distribution & collection of containers	10.6	87.12	37.61	35.50	160.23
Picking	40.0	290.00	--	--	290.00
Grading & packing	16.0	116.00	--	--	116.00
Marketing/delivery	4.0	33.00	48.92	66.16	148.08
HIGHER YIELD (6 ton/ac)					
Distribution & collection of containers	15.8	130.68	56.42	53.26	240.36
Picking	55.0	398.75	--	--	398.75
Grading & packing	24.0	174.00	--	--	174.00
Marketing/delivery	5.0	41.25	61.15	82.70	185.10

[a] Fixed costs include depreciation and interest on investment.

Table 35.--European Plums for Fresh Market: Estimated Cost of Production, Ontario, 1991

	Cost per acre		
	Your Farm	Yield 3 ton	Yield 4 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 118.0 hrs/144.0 hrs	_____	856	1,044
Machine operator, 38.7 hrs/41.3 hrs	_____	319	341
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	102	102
Fungicides	_____	74	74
Herbicides	_____	19	19
Cover crop seed	_____	4	4
Containers	_____	448	598
Bee rental	_____	20	20
Tractor and machine costs:			
Repairs and maintenance	_____	92	96
Fuel	_____	63	68
Interest on operating capital	_____	101	115
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,150**	**2,533**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	103	109
Interest on investment	_____	69	72
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**272**	**281**
GROSS MARGIN ANALYSIS			
Gross Income ($7.80 per 3 x 4 L master)[a]	_____	2,106	2,808
Total Variable Costs	_____	2,150	2,533
Gross Margin (no land costs reflected)	_____	-44	275

[a] The 1991 price is an average of the last two years for blue plums and prunes sold through the Central Fruit Exchange.

Table 36.--European Plums for Fresh Market: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning & brush removal	53.8	406.18	19.76	27.66	453.60
Fertilizing	0.7	5.45	2.50	2.61	10.56
Cultivating (4x)	2.6	21.78	14.67	12.41	48.86
Mowing (4x)	2.6	21.78	21.45	17.62	60.85
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (8x)	3.5	28.75	20.42	25.67	74.84
Sow cover crop	0.7	5.45	2.50	2.61	10.56
General maintenance	3.2	24.40	6.09	4.00	34.49
HARVEST					
LOWER YIELD (3 ton/ac)					
Distribute & collect containers	7.9	65.34	28.20	26.63	120.17
Picking	60.0	435.00	--	--	435.00
Grading & packing	18.0	130.50	--	--	130.50
Marketing/delivery	3.0	24.75	36.69	49.62	111.06
HIGHER YIELD (4 ton/ac)					
Distribute & collect containers	10.6	87.12	37.61	35.51	160.24
Picking	80.0	580.00	--	--	580.00
Grading & packing	24.0	174.00	--	--	174.00
Marketing/delivery	3.0	24.75	36.69	49.62	111.06

[a] Fixed costs include depreciation and interest on investment.

Table 37.—Japanese Plums for Fresh Market: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 3 ton	Yield 4 ton
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 166.0 hrs/192.0 hrs	_____	1,204	1,392
Machine operator, 37.6 hrs/40.3 hrs	_____	310	332
Fertilizer:			
Ammonium nitrate, 90 kg	_____	23	23
Muriate of potash, 135 kg	_____	29	29
Insecticides	_____	89	89
Fungicides	_____	24	24
Herbicides	_____	19	19
Cover crop seed	_____	4	4
Containers	_____	448	598
Bee rental	_____	20	20
Tractor and machine costs:			
Repairs and maintenance	_____	89	93
Fuel	_____	60	64
Interest on operating capital	_____	70	77
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,389**	**2,764**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	98	119
Interest on investment	_____	66	79
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**264**	**298**
GROSS MARGIN ANALYSIS			
Gross Income ($11.60 per 3 x 4 L master)[a]	_____	3,132	4,176
Total Variable Costs	_____	2,389	2,764
Gross Margin (no land costs reflected)	_____	743	1,412

[a] The 1991 price is an average of the last two years for Early Golden and Shiro plums sold through the Central Fruit Exchange.

Table 38.—Japanese Plums for Fresh Market: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Pruning & brush removal	53.8	406.18	19.76	27.66	453.60
Fertilizing	0.7	5.45	2.50	2.61	10.56
Cultivating (4x)	2.6	21.78	14.67	12.41	48.86
Mowing (4x)	2.6	21.78	21.45	17.62	60.85
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (6x)	2.4	19.77	14.04	17.65	51.46
Sow cover crop	0.7	5.45	2.50	2.61	10.56
Thinning	48.0	348.00	--	--	348.00
General maintenance	3.2	24.40	6.09	4.00	34.49
HARVEST					
LOWER YIELD (3 ton/ac)					
Distribute & collect containers	7.9	65.34	28.20	26.63	120.17
Picking	60.0	435.00	--	--	435.00
Grading & packing	18.0	130.50	--	--	130.50
Marketing/delivery	3.0	24.75	36.69	49.62	111.06
HIGHER YIELD (4 ton/ac)					
Distribute & collect containers	10.6	87.12	37.61	35.51	160.24
Picking	80.0	580.00	--	--	580.00
Grading & packing	24.0	174.00	--	--	174.00
Marketing/delivery	3.0	24.75	36.69	49.62	111.06

[a] Fixed costs include depreciation and interest on investment.

Table 39.–Strawberry "Preplant Year" Costs for Commercial Harvest and Pick-Your Own: Estimated Cost of Production, Ontario, 1991

	Cost per acre	
	Your Farm	Budget
		- dollars -
VARIABLE COSTS		
Labour:		
Machine operator, 3.5 hrs	_____	29
Fertilizer, 10-20-20, 80 kg	_____	21
Herbicides	_____	28
Green manure seed	_____	4
Fumigant	_____	193
Tractor and machine costs:		
Repairs and maintenance	_____	9
Fuel	_____	9
Custom application, fumigant	_____	30
Interest on operating capital	_____	62
Land rental	_____	--
TOTAL VARIABLE COSTS	_____	**385**
FIXED COSTS		
Tractor and machine costs:		
Depreciation	_____	12
Interest on investment	_____	8
Other overhead	_____	50
Land ownership	_____	--
MEASURABLE FIXED COSTS	_____	**70**
TOTAL MEASURABLE "PREPLANT YEAR" COSTS	_____	**455**

Table 40.–Strawberry "Preplant Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
Plowing (2x)	1.5	12.42	8.96	10.04	31.42
Discing	0.3	2.72	2.74	2.89	8.35
Seed green manure	0.7	5.45	2.50	2.61	10.56
Fertilizing	0.7	5.45	2.50	2.61	10.56
Weed spraying	0.3	2.50	1.17	1.80	5.47

[a] Fixed costs include depreciation and interest on investment.

Table 41.--Strawberry "Planting Year" Costs for Commercial Harvest and Pick-Your Own: Estimated Cost of Production, Ontario, 1991

	Cost per acre	
	Your Farm	Budget
		- dollars -
VARIABLE COSTS		
Labour:		
Hired, 62.0 hrs	_____	450
Machine operator, 15.9 hrs	_____	131
Fertilizer:		
Ammonium nitrate, 32 kg	_____	8
10-20-20, 163 kg	_____	43
10-52-10, 5 kg	_____	12
Insecticides	_____	27
Fungicides	_____	16
Herbicides	_____	65
Manure, 20 ton	_____	200
Plants, 5,000	_____	295
Straw, 3 tonne	_____	168
Tractor and machine costs:		
Repairs and maintenance	_____	32
Fuel	_____	32
Interest on operating capital	_____	85
Land rental	_____	--
TOTAL VARIABLE COSTS	_____	**1,564**
FIXED COSTS		
Tractor and machine costs:		
Depreciation	_____	53
Interest on investment	_____	35
Other overhead	_____	100
Land ownership	_____	--
MEASURABLE FIXED COSTS	_____	**188**
TOTAL MEASURABLE "PLANTING YEAR" COSTS	_____	**1,752**

Table 42.--Strawberry "Planting Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
Manure spreading	1.0	8.61	5.77	8.94	23.32
Plowing	0.8	6.21	4.48	5.02	15.71
Discing & harrowing	0.6	5.12	4.23	1.50	10.85
Planting	20.3	152.31	18.48	26.24	197.03
Fertilizing (2x)	1.4	11.39	5.78	8.53	25.70
Hand weed & training	42.0	304.50	--	--	304.50
Weed spraying (2x)	0.6	5.01	2.35	3.60	10.96
Pesticide spraying (3x)	0.9	7.51	3.52	5.40	16.43
Cultivating (3x)	2.0	16.34	7.31	6.76	30.41
Mulching	8.3	63.48	12.02	19.48	94.98

[a] Fixed costs include depreciation and interest on investment.

Table 43.--Strawberry Renovation Costs for Commercial Harvest and Pick-Your Own: Estimated Cost of Production, Ontario, 1991

	Cost per acre	
	Your Farm	Budget
		- dollars -
VARIABLE COSTS		
Labour:		
Hired, 21.0 hrs	_____	152
Machine operator, 13.2 hrs	_____	108
Fertilizer:		
Ammonium nitrate, 40 kg	_____	10
10-20-20, 200 kg	_____	52
Herbicides	_____	25
Straw, 3 tonne	_____	168
Tractor and machine costs:		
Repairs and maintenance	_____	28
Fuel	_____	28
Interest on operating capital	_____	19
Land rental	_____	--
TOTAL VARIABLE COSTS	_____	**590**
FIXED COSTS		
Tractor and machine costs:		
Depreciation	_____	34
Interest on investment	_____	23
Land ownership	_____	--
MEASURABLE FIXED COSTS	_____	**57**
TOTAL MEASURABLE RENOVATION COSTS	_____	**647**

Table 44.--Strawberry Renovation Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
Mowing	0.7	5.45	5.36	4.40	15.21
Rotovating	2.6	21.78	14.65	12.28	48.71
Fertilizing (2x)	1.3	10.89	5.01	5.24	21.14
Weed spraying (2x)	0.6	5.01	2.35	3.60	10.96
Cultivating (4x)	5.3	43.56	18.35	16.20	78.11
Hand hoeing	15.0	108.75	--	--	108.75
Mulching	8.6	65.28	9.62	15.58	90.48

[a] Fixed costs include depreciation and interest on investment.

Table 45.–Strawberry Preharvest and Harvest Costs for Commercial Harvest: Estimated Cost of Production, Ontario, 1991

	Cost per acre		
	Your Farm	Yield 6,000 qts	Yield 8,000 qts
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 445 hrs/555 hrs	_____	2,624	3,204
Machine operator, 27.1 hrs/27.1 hrs	_____	211	211
Insecticides	_____	69	69
Fungicides	_____	120	120
Containers	_____	1,114	1,486
Irrigation (2x)	_____	160	160
Comfort station rental	_____	25	25
Tractor and machine costs:			
Repairs and maintenance	_____	47	47
Fuel	_____	45	45
Interest on operating capital	_____	81	81
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**4,496**	**5,448**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	56	56
Interest on investment	_____	38	38
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**194**	**194**
GROSS MARGIN ANALYSIS			
Gross Income ($1.25 per quart)	_____	7,500	10,000
Total Variable Costs:			
Establishment (¼ of cost)[a]	_____	552	552
Preharvest and harvest	_____	4,496	5,448
Renovation (¾ of cost)[a]	_____	485	485
TOTAL	_____	5,533	6,485
Gross Margin (no land costs reflected)	_____	1,967	3,515

[a] The costs shown in this table are based on a system in which there are four harvesting years following the establishment year. Hence, establishment costs are spread over four production years. On the average, a field will be renovated three times during the four-year cycle before the field is taken out of production.

Table 46.–Strawberry Preharvest and Harvest Costs for Commercial Harvest: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Removing mulch	3.3	25.39	5.04	8.11	38.54
Pesticide spraying (6x)	1.8	15.03	7.04	10.81	32.88
Hand weeding	5.0	36.25	--	--	36.25
HARVEST					
LOWER YIELD (6,000 qts/ac)					
Harvesting	390.0	2,236.88	79.93	75.45	2,393.51
Assembling masters	32.0	232.00	--	--	232.00
Miscellaneous work	40.0	290.00	--	--	290.00
HIGHER YIELD (8,000 qts/ac)					
Harvesting	490.0	2,744.38	79.93	75.45	2,899.76
Assembling masters	42.0	304.50	--	--	304.50
Miscellaneous work	40.0	290.00	--	--	290.00

[a] Fixed costs include depreciation and interest on investment.

Table 47.--Strawberry Preharvest and Harvest Costs for Pick-Your-Own: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 6,000 qts	Yield 8,000 qts
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 79.0 hrs/79.0 hrs	_____	573	573
Machine operator, 22.9 hrs/22.9 hrs	_____	189	189
Insecticides	_____	69	69
Fungicides	_____	120	120
Advertising	_____	250	250
Irrigation (2x)	_____	160	160
Comfort station rental	_____	25	25
Parking area maintenance	_____	65	65
Special equipment use	_____	130	130
Tractor and machine costs:			
Repairs and maintenance	_____	42	42
Fuel	_____	41	41
Interest on operating capital	_____	31	31
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**1,695**	**1,695**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	51	51
Interest on investment	_____	34	34
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**185**	**185**
GROSS MARGIN ANALYSIS			
Gross Income ($0.95 per quart)	_____	5,700	7,600
Total Variable Costs:			
Establishment (¼ of cost)[a]	_____	552	552
Preharvest and harvest	_____	1,695	1,695
Renovation (¾ of cost)[a]	_____	485	485
TOTAL	_____	2,732	2,732
Gross Margin (no land costs reflected)	_____	2,968	4,868

[a] The costs shown in this table are based on a system in which there are four harvesting years following the establishment year. Hence, establishment costs are spread over four production years. On the average, a field will be renovated three times during the four-year cycle before the field is taken out of production.

Table 48.--Strawberry Preharvest and Harvest Costs for Pick-Your-Own Operation Costs: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Removing mulch	3.3	25.39	5.04	8.11	38.54
Pesticide spraying (6x)	1.8	15.03	7.04	10.81	32.88
Hand weeding	5.0	36.25	--	--	36.25
HARVEST					
LOWER YIELD (6,000 qts/ac)					
Supervision	19.8	163.35	70.53	66.58	300.46
Check-out	72.0	522.00	--	--	522.00
HIGHER YIELD (8,000 qts/ac)					
Supervision	19.8	163.35	70.53	66.58	300.46
Check-out	72.0	522.00	--	--	522.00

[a] Fixed costs include depreciation and interest on investment.

Table 49.--Raspberry "Preplant Year" Costs for Commercial Harvest and Pick-Your Own: Estimated Cost of Production, Ontario, 1991

	Cost per acre	
	Your Farm	Budget
		- dollars -
VARIABLE COSTS		
Labour:		
Machine operator, 3.8 hrs	_____	31
Fertilizer:		
Ammonium nitrate, 40 kg	_____	10
8-32-16, 60 kg	_____	18
Herbicides	_____	89
Green manure seed	_____	4
Tractor and machine costs:		
Repairs and maintenance	_____	9
Fuel	_____	10
Interest on operating capital	_____	61
Land rental	_____	--
TOTAL VARIABLE COSTS	_____	232
FIXED COSTS		
Tractor and machine costs:		
Depreciation	_____	12
Interest on investment	_____	8
Other overhead	_____	50
Land ownership	_____	--
MEASURABLE FIXED COSTS	_____	70
TOTAL MEASURABLE "PREPLANT YEAR" COSTS	_____	302

Table 50.--Raspberry "Preplant Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
Plowing (2x)	1.5	12.42	8.96	10.06	31.44
Discing	0.7	5.45	3.67	3.11	12.23
Seed green manure	0.7	5.45	2.50	2.61	10.56
Fertilizing	0.7	5.45	2.50	2.61	10.56
Weed spraying	0.3	2.50	1.17	1.80	5.47

[a] Fixed costs include depreciation and interest on investment.

Table 51.--Raspberry "Planting Year" Costs for Commercial Harvest and Pick-Your Own: Estimated Cost of Production, Ontario, 1991

	Cost per acre	
	Your Farm	Budget
		- dollars -
VARIABLE COSTS		
Labour:		
Hired. 41.0 hrs	_____	297
Machine operator, 18.4 hrs	_____	152
Fertilizer:		
15-15-15, 180 kg	_____	46
10-52-10, 5 kg	_____	12
Insecticides	_____	32
Fungicides	_____	9
Plants, 2,000	_____	720
Cover crop seed	_____	25
Trickle irrigation	_____	925
Trellis posts	_____	85
Tractor and machine costs:		
Repairs and maintenance	_____	36
Fuel	_____	38
Interest on operating capital	_____	409
Land rental	_____	--
TOTAL VARIABLE COSTS	_____	**2,786**
FIXED COSTS		
Tractor and machine costs:		
Depreciation	_____	57
Interest on investment	_____	38
Other overhead	_____	100
Land ownership	_____	--
MEASURABLE FIXED COSTS	_____	**195**
TOTAL MEASURABLE "PLANTING YEAR" COSTS	_____	**2,981**

Table 52.--Raspberry "Planting Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed* Costs	
	-hours-		-dollars per acre-		
Discing (2x)	0.7	5.45	5.49	5.77	16.71
Harrowing	0.6	4.79	2.99	2.15	9.93
Fertilizing	0.7	5.45	2.50	2.61	10.56
Lay out field	3.0	21.75	--	--	21.75
Planting	17.3	130.56	18.48	26.24	175.28
Irrigation	2.0	14.50	2.99	--	17.49
Cultivating (4x)	2.6	21.78	9.74	9.03	40.55
Hoe, weed and blossom removal	20.0	145.00	--	--	145.00
Seed cover crop	0.7	5.45	2.50	2.61	10.56
Pesticide spraying (2x)	2.6	21.78	9.46	11.85	43.09
Install posts	9.3	72.56	19.81	35.32	127.69

* Fixed costs include depreciation and interest on investment.

Table 53.--Raspberry "Growth Year" Costs for Commercial Harvest and Pick-Your Own: Estimated Cost of Production, Ontario, 1991

	Cost per acre	
	Your Farm	Budget
		- dollars -
VARIABLE COSTS		
Labour:		
Hired. 47.0 hrs	_____	341
Machine operator, 15.2 hrs	_____	125
Fertilizer, 17-17-17, 136 kg	_____	38
Insecticides	_____	202
Fungicides	_____	108
Herbicides	_____	2
Trellis wire	_____	300
Tractor and machine costs:		
Repairs and maintenance	_____	34
Fuel	_____	34
Interest on operating capital	_____	71
Land rental	_____	--
TOTAL VARIABLE COSTS	_____	**1,255**
FIXED COSTS		
Tractor and machine costs:		
Depreciation	_____	41
Interest on investment	_____	27
Other overhead	_____	100
Land ownership	_____	--
MEASURABLE FIXED COSTS	_____	**168**
TOTAL MEASURABLE "GROWTH YEAR" COSTS	_____	**1,423**

Table 54.--Raspberry "Growth Year" Costs for Commercial Harvest and Pick-Your-Own: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
Fertilizing	0.7	5.45	2.50	2.61	10.56
Mowing (3x)	2.0	16.34	16.08	13.21	45.63
Hand weeding	5.0	36.25	--	--	36.25
Irrigation	3.0	21.75	4.60	--	26.35
Weed spraying	0.7	5.45	2.42	3.25	11.12
Pesticide spraying (6x)	7.9	65.34	28.37	35.55	129.26
Thinning canes	30.0	217.50	--	--	217.50
Stretch wire	13.0	97.92	14.11	13.31	125.34

[a] Fixed costs include depreciation and interest on investment.

Table 55.–Raspberry Preharvest and Harvest Costs for Commercial Harvest: Estimated Cost of Production, Ontario, 1991

	Your Farm	Cost per acre Yield 2,700 pts	Yield 3,500 pts
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 234.0 hrs/282.0 hrs	_____	1,696	2,044
Machine operator, 33.1 hrs/33.1 hrs	_____	273	273
Fertilizer, 17-17-17, 136 kg	_____	38	38
Insecticides	_____	279	279
Fungicides	_____	108	108
Herbicides	_____	81	81
Containers	_____	347	463
Trellis materials	_____	33	33
Comfort station rental	_____	25	25
Tractor and machine costs:			
Repairs and maintenance	_____	67	67
Fuel	_____	75	75
Interest on operating capital	_____	89	102
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**3,111**	**3,588**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	82	82
Interest on investment	_____	54	54
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**236**	**236**
GROSS MARGIN ANALYSIS			
Gross Income ($2.00 per pint)	_____	5,400	7,000
Total Variable Costs:			
Amortized establishment costs [a]	_____	1,219	1,219
Preharvest and harvest	_____	3,111	3,588
TOTAL	_____	4,330	4,807
Gross Margin (no land costs reflected)	_____	1,070	2,193

[a] Amortized establishment costs include preplant year costs, planting year costs, and growth year costs amortized over five production years at a rate of 9.3 percent.

Table 56.--Raspberry Preharvest and Harvest Costs for Commercial Harvest: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Topping, pruning & thinning	50.0	362.50	--	--	362.50
Removing brush	2.6	21.78	8.76	8.44	38.98
Fertilizing	0.7	5.94	3.27	5.92	15.13
Mowing (3x)	2.0	16.34	16.08	13.21	45.63
Weed spraying (2x)	1.4	11.39	5.69	9.17	26.25
Irrigation	5.0	36.25	13.80	--	50.05
Pesticide spraying (7x)	9.2	76.23	33.10	41.47	150.80
Removing canes	10.0	72.50	--	--	72.50
Trellis maintenance	7.0	61.67	14.11	13.31	89.09
HARVEST					
LOWER YIELD (2,700 pts/ac)					
Supervision	33.2	253.90	47.01	44.39	345.30
Picking	135.0	978.75	--	--	978.75
Assemble masters	10.0	72.50	--	--	72.50
HIGHER YIELD (3,500 pts/ac)					
Supervision	33.2	253.90	47.01	44.39	345.30
Picking	180.0	1,305.00	--	--	1,305.00
Assemble masters	13.0	94.25	--	--	94.25

[a] Fixed costs include depreciation and interest on investment.

Table 57.--Raspberry Preharvest and Harvest Costs for Pick-Your-Own: Estimated Cost of Production, Ontario, 1991

		Cost per acre	
	Your Farm	Yield 2,700 pts	Yield 3,500 pts
		- dollars -	
VARIABLE COSTS			
Labour:			
Hired, 109.0 hrs/109.0 hrs	_____	790	790
Machine operator, 33.1 hrs/33.1 hrs	_____	273	273
Fertilizer, 17-17-17, 136 kg	_____	38	38
Insecticides	_____	279	279
Fungicides	_____	108	108
Herbicides	_____	81	81
Trellis materials	_____	33	33
Comfort station rental	_____	25	25
Check-out equipment rental	_____	130	130
Parking area maintenance	_____	65	65
Advertising	_____	250	250
Tractor and machine costs:			
Repairs and maintenance	_____	67	67
Fuel	_____	75	75
Interest on operating capital	_____	67	67
Land rental	_____	--	--
TOTAL VARIABLE COSTS	_____	**2,281**	**2,281**
FIXED COSTS			
Tractor and machine costs:			
Depreciation	_____	82	82
Interest on investment	_____	54	54
Other overhead	_____	100	100
Land ownership	_____	--	--
MEASURABLE FIXED COSTS	_____	**236**	**236**
GROSS MARGIN ANALYSIS			
Gross Income ($1.45 per pint)	_____	3,915	5,075
Total Variable Costs:			
Amortized establishment costs [a]	_____	1,219	1,219
Preharvest and harvest	_____	2,281	2,281
TOTAL	_____	3,500	3,500
Gross Margin (no land costs reflected)	_____	415	1,575

[a] Amortized establishment costs include preplant year costs, planting year costs, and growth year costs amortized over five production years at a rate of 9.3 percent.

Table 58.–Raspberry Preharvest and Harvest Costs for Pick-Your-Own: Operation Costs, Ontario, 1991

Operation	Labour	Labour Costs	Machine Costs		Total Costs
			Maintenance Fuel & Repairs	Fixed[a] Costs	
	-hours-		-dollars per acre-		
PREHARVEST					
Topping, pruning & thinning	50.0	362.50	--	--	362.50
Removing brush	2.6	21.78	8.76	8.44	38.98
Fertilizing	0.7	5.94	3.27	5.92	15.13
Mowing (3x)	2.0	16.34	16.08	13.21	45.63
Weed spraying (2x)	1.4	11.39	5.69	9.17	26.25
Irrigation	5.0	36.25	13.80	--	50.05
Pesticide spraying (7x)	9.2	76.23	33.10	41.47	150.80
Removing canes	10.0	72.50	--	--	72.50
Trellis maintenance	7.0	61.67	14.11	13.31	89.09
HARVEST					
LOWER YIELD (2,700 pts/ac)					
Supervision	33.2	253.90	47.01	44.39	345.30
Check-out	30.0	217.50	--	--	217.50
HIGHER YIELD (3,500 pts/ac)					
Supervision	33.2	253.90	47.01	44.39	345.30
Check-out	30.0	217.50	--	--	217.50

[a] Fixed costs include depreciation and interest on investment.

Appendix Table 1.--Marketed Fruit Production, Ontario, 1986-1990

Crop	Unit	1986	1987	1988	1989	1990[a]
Imperial Units						
				- '000 -		
Apples	lb	347,359	377,203	347,530	423,764	430,494
Blueberries	qt	924	921	624	640	685
Cantaloupes	lb	3,790	4,075	4,167	4,650	2,773
Cherries, sour	lb	8,460	13,600	11,300	13,180	9,150
Cherries, sweet	lb	3,048	2,750	2,475	2,405	2,825
Grapes	lb	170,285	156,266	150,269	104,584	118,315
Peaches	lb	56,898	71,800	79,000	72,893	86,220
Pears	lb	34,288	30,516	25,939	26,987	21,408
Plums & prunes	lb	10,876	7,100	5,254	4,881	3,995
Raspberries	qt	1,495	1,791	1,511	1,730	1,222
Strawberries	qt	20,995	19,318	14,108	17,635	15,332
Metric Units						
				- tonnes -		
Apples		157,561	171,098	157,637	192,216	195,269
Blueberries		524	522	354	363	388
Cantaloupes		1,719	1,848	1,890	2,068	1,258
Cherries, sour		3,837	6,169	5,126	5,978	4,150
Cherries, sweet		1,383	1,247	1,123	1,091	1,281
Grapes		77,241	70,882	68,161	47,439	53,667
Peaches		25,809	32,568	35,834	33,064	39,109
Pears		15,553	13,842	11,766	12,241	9,711
Plums & prunes		4,933	3,221	2,383	2,214	1,812
Raspberries		848	1,015	857	981	693
Strawberries		11,904	10,953	7,999	9,999	8,693

[a] Preliminary, subject to revision.

Source: Seasonal Fruit and Vegetable Report, Annual Summary, Policy Analysis Branch, Ontario Ministry of Agriculture and Food.

Appendix Table 2.–Average Prices Received for Fruit, Ontario, 1986-1990

Crop		1986	1987	1988	1989	1990
				- cents/lb -		
Apples	- fresh	20.8	20.0	25.8	16.1	18.8
	- proc.	6.9	5.6	7.7	5.2	7.1
Blueberries	- fresh	135.2	160.2	174.6	218.2	130.7
Cantaloupes	- fresh	26.9	24.5	23.6	26.0	22.2
Cherries, sour	- fresh	45.3	26.1	33.0	32.9	35.4
	- proc.	42.0	18.3	33.5	29.5	32.0
Cherries, sweet	- fresh	71.6	69.6	97.6	93.8	86.8
	- proc.	36.1	37.2	41.4	43.8	38.8
Grapes	- fresh	30.0	28.9	27.8	31.1	31.4
	- proc.	17.9	18.9	18.3	26.1	23.1
Peaches	- fresh	29.1	26.6	25.6	33.6	39.5
	- proc.	23.3	23.3	23.5	23.5	22.9
Pears	- fresh	24.7	25.1	28.4	24.4	28.8
	- proc.	17.2	17.8	17.2	18.0	19.7
Plums/prunes	- fresh	27.8	23.8	32.4	38.1	39.4
	- proc.	16.3	15.4	17.5	18.3	18.8
Raspberries	- fresh	163.8	170.8	195.0	202.7	156.6
Strawberries	- fresh	61.4	61.9	73.7	79.7	58.4
				- cents/kg -		
Apples	- fresh	45.9	44.1	56.9	35.5	41.5
	- proc.	15.2	12.3	17.0	11.5	15.7
Blueberries	- fresh	298.1	353.2	385.0	481.1	288.2
Cantaloupes	- fresh	59.3	54.0	52.0	57.3	49.0
Cherries,sour	- fresh	99.9	57.5	72.8	72.5	78.1
	- proc.	92.6	40.3	73.9	65.0	70.6
Cherries, sweet	- fresh	157.9	153.5	215.2	206.8	191.4
	- proc.	79.6	82.0	91.3	96.6	85.6
Grapes	- fresh	66.1	63.7	61.3	68.6	69.2
	- proc.	39.5	41.7	40.3	57.6	50.9
Peaches	- fresh	64.2	58.6	56.4	74.1	67.1
	- proc.	51.4	51.4	51.8	51.8	50.5
Pears	- fresh	54.5	55.3	62.6	53.8	63.5
	- proc.	37.9	39.2	37.9	39.7	43.4
Plums/prunes	- fresh	61.3	52.5	71.4	84.0	86.9
	- proc.	35.9	34.0	38.6	40.4	41.5
Raspberries	- fresh	361.2	376.6	430.0	447.0	345.3
Strawberries	- fresh	135.4	136.5	162.5	175.7	128.8

Source: Seasonal Fruit and Vegetable Report, Policy Analysis Branch, Ontario Ministry of Agriculture and Food.

Appendix Table 3.--Minimum Prices Paid for Ontario Tender Fruit for Processing, 1987-1991

Crop	1987	1988	1989	1990	1991
			- $/ton -		
Sweet cherries,					
canning	1,201.50	1,281.50	1,281.50	1,361.50	1,362.00
maraschino	721.50	721.50	721.50	721.50	762.00
Sour cherries,					
97-100 grade	399.90	705.10	645.15	705.10	1,098.00
Plums	311.50	316.50	316.50	332.50	353.00
Prunes	357.50	362.50	362.50	380.50	404.00
Damsons	381.50	386.50	386.50	405.50	430.00
Bartlett pears,					
No. 1	372.50	377.50	377.50	398.50	423.00
No. 2	220.50	225.50	225.50	225.50	239.00
Other pears,#1	327.50	332.50	332.50	340.50	361.00
Peaches,					
Freestone	408.50	413.50	413.50	413.50	439.00
Clingstone	465.50	470.50	470.50	458.50	452.00

Source: Ontario Tender Fruit Producers' Marketing Board

Appendix Table 4.–Minimum Prices Paid for Ontario Grapes for Processing, 1987-1991

		1987	1988	1989	1990	1991
				- $/tonne -		
Class 1.	(Concord, Fredonia, Patricia, President, VanBuren)	301	298	316	348	284
Class 2.	(Niagara, Wiley White)	292	289	304	328	280
Class 3.	(Elvira, Buffalo)	331	200	266	266	266
	(Agawam)	303	200	260	304	266
	(Catawba, Ventura)	353	280	280	304	266
	(Alden, Veeblanc, Vincent)	509	321	407	400	266
	(Delaware, Duchess)	579	200	300	266	266
	(V34123, V35163)	--	--	--	--	266
Class 5.	(DeChaunac)	351	250	391	391	382
	(Rosette)	357	250	260	350	382
Class 5A.	(Foch, Leon Millot)	435	295	475	475	475
Class 5B.	(Blue, Castel 19637, Chelois, French Hybrids, GR7)	488	375	528	528	528
Class 5C.	(Experimental Red Hybrid)	--	--	--	--	462
Class 6.	(Canada Muscat, New York Muscat)	642	332	384	384	400
	(B.S.2846, Couderc)	672	504	470	561	400
	(V61122, V64111)	--	--	--	--	400
Class 7.	(Aurore, Cayuga White, J.S.23-416, B.C. Riesling, Siebel 8229, Siegfried Rebe, S.V.172, S.V.23-512, V50201, Verdelet, Vivant)	661	381	423	408	408
Class 7A.	(Seyval Blanc, Vidal)	661	381	423	408	429
Class 7B.	(All Geisenheim, Pollux)	661	381	423	408	435
Class 7C.	(Experimental White Hybrid)	628	381	423	408	425
Class 9.	(J. Riesling)	888	637	755	785	820
Class 9A.	(Auxerrois, Bacchus, Kerner, W. Riesling, Scheurebe)	888	637	755	785	800
Class 9B.	(Chardonnay)	965	1,396	1,705	1,495	1,250
Class 9C.	(Gewurztraminer)	1,033	917	1,109	1,033	996
Class 9D.	(Experimental White Vinifera)	--	--	--	785	820
Class 10.	(Gamay)	947	597	922	947	919
Class 10A.	(Pinot Noir)	1,033	917	1,109	1,033	1,295
Class 10B.	(Cabernet Sauvignon)	1,033	917	1,109	1,033	1,300
Class 10C.	(Cabernet Franc)	1,033	917	1,109	1,033	1,300
Class 10D.	(Merlot)	1,033	917	1,109	1,033	1,300
Class 10E.	(Experimental Red Vinifera)	--	--	--	785	1,000

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